

Probe For Media Surface

This Feature is used with Tux Cutter/Smoothie devices only.

The screenshot shows the 'Probe For Surface Of Media' dialog box in the Tux Cutter/Smoothie software. The dialog includes a central diagram of the spindle motor and media surface, with callouts explaining various settings:

- The Maximum Z Travel:** 60mm Z Max
- If More Than One Contact Is Used An Option To Select Average, Highest, Or Lowest Values Will Appear Here:** A dropdown menu for selecting the contact type.
- Default Contact Enabled:** A checkbox for enabling the default contact.
- Optional Contacts:** A section for configuring additional contact points, including 'Distance Between Optional Points' (set to 50) and 'Z Probe Speed mm/sec' (set to 0.8).
- Clear Discovered Values To Defaults:** A 'Clear Reset' button.
- If Using Optional Extra ConTacts This Is The Space Between Them:** A 'Probe Contact Pad Thickness (mm)' slider (set to 6.1).
- Launch Probe Routine:** A 'Start Probe' button.
- The Rate At Which The Z Axis Drops (safe around 1mm/sec):** A 'Rapid' slider (set to 35).
- Contact Pad Thickness If Touching Off Using A Pad If Using Actual media Surface Use "0":** A 'Probe Contact Pad Thickness (mm)' slider.

The software interface also shows various control panels for output profile, speed, and tool settings, including a 'SEND' button and a 'Find Media Surface Using Tool Touch Off' message.

If using a Tux Cutter purchased from SecureTech it will come wired to handle the contact pads and at least one sample wired contact pad.

Your contact pad can have a height ranging from “0” (no pad) to 50 mm in increments of .1 mm. It is important to accurately measure the pad thickness.

Select the number of contacts you wish to use (one is default) adjust spacing between contacts if more than one used. Adjust slider for pad thickness and speed.

Jog Z axis so tool tip is within 10 mm of the contact pad or metal wired media surface. Launch probe routine.

When contact is made the Z axis spindle returns to original position and the “Z Distance To Media Surface” slider is auto adjusted and your ready to send your cnc job.

If an error occurs like missing the contact pad or tool tip is more than 10 mm above contact surface the Z axis will return to original start coordinate.

When moving downward toward contact surface the maximum distance is 10 mm, more than that probe routine will fail and return to start allowing you to jog down to within 10 mm and try again.

A visual readout is shown for all used contacts when completed, these values are the distance travelled from start position to contact surface.

Clear and Reset clears all the values from display and allows you to start over.

If you wish to use your metal media (steel, aluminium, brass etc) as your touch off contact use a wired alligator clip attached to corner of media to complete probe circuit. (supplied with Tux Cutter)

Tux Plot Z Axis

Tux Plot is a 2d or 2.5d system so the Z axis follows more closely an engraver style or model.

In this image the spindle is at “Home” which is the Z maximum given when you created your profile.

We will use 60mm for example.

In Tux Plot the “Z Distance To Media Surface” slider represents how far from “Home” the media surface is.

For example 44mm to surface contact leaving a possible 16mm actual carving or milling depth into media before reaching “0”.

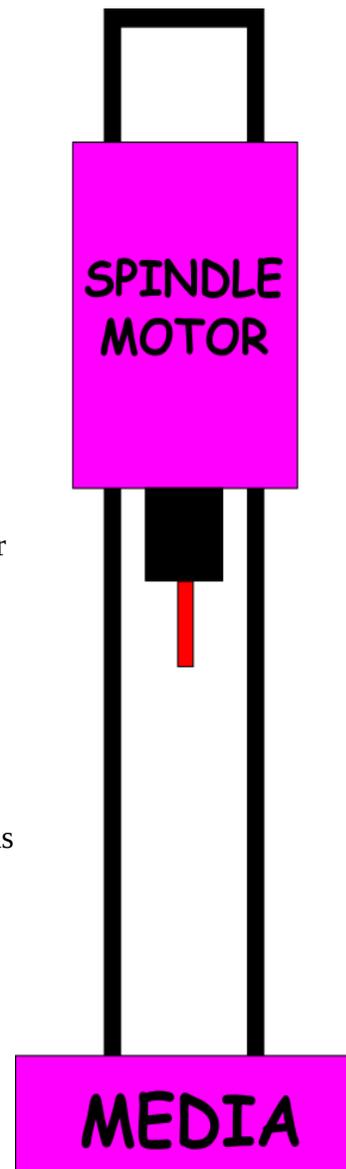
The probe for media function will auto adjust this slider when it touches the trigger contact pad or media if your Smoothie or Tux Cutter is so wired.

To select how far into the media you want to cut and how many passes to achieve this cut depth adjustments are made on the lower right quadrant of the Tux Plot window where specific controls are for the Tux Cutter/Smoothie.

If you manually jog the “Z” axis downward the slider value will also self adjust so old fashioned touch-off with a piece of paper is easy.

You can still jog XYor Z to any coordinate and set the new origin as your “Home”. You can apply a new origin to all three axis or just “Z” if needed.

To use your cnc mill as a traditional 3d cnc simply boot your Smoothie/Tux Cutter with a properly configured firmware and config file. Always save your current firmware and config file on your SD card to your Desktop or any off card loaction before attempting any changes or firmware changes, SD cards can fail at any time!



Until you become familiar with this system I recommend lots of “air cutting” before you tackle hard wood or aluminium!